

W I S C O N S I N

# Wildlife Phenology

2007 | calendar





# Wisconsin Wildlife Phenology

## 2007

THE ALDO  
LEOPOLD  
FOUNDATION

The Aldo Leopold Foundation (ALF) was founded in 1982 by the children of Aldo Leopold to promote harmony between people and the land and foster Leopold's vision of the Land Ethic. ALF is the definitive interpreter and advocate for Leopold's legacy.

**Phenology** is a segment of ecology focusing on the study of periodic plant and animal life-cycle events that are influenced by climate and seasonal change in the environment. Wildlife emerging from hibernation, birds nesting or migrating, and flowers blooming are all examples of annual phenological events.

Phenology is derived from the Greek word *phaino* meaning to show or appear, indicating its principal concern with the dates of first occurrence of natural events in their annual cycle. While the word is rooted in history, so too is the study of phenology.

Written phenology records have been kept in North America for more than 200 years. In Wisconsin, early phenologists include Father T. Bruhin and Increase A. Lapham, who both recorded plant and animal events in Milwaukee County during the 1800s. This calendar identifies phenological events gathered from a variety of sources throughout the Midwest.

The primary source of data used in this calendar is historic and continuing records from Aldo Leopold and his family in Sauk County, Wisconsin. Phenological events have been recorded at the Leopold Family Farm and Shack, a tradition begun in 1936 by Aldo Leopold, regarded by many as the father of wildlife ecology. Leopold took most of these recordings from 1936-1947 in and around this landscape, which inspired Leopold's seminal work on conservation: *A Sand County Almanac*.

Nina Leopold Bradley followed her father's lead by compiling 26 years of phenology data from 1974 through 2000. This calendar also uses those dates, and averages them, thereby determining what date a phenological event may occur. In addition, four Aldo-Leopold-averaged dates taken from 1936 through 1947 are used. Phenological events occur much earlier now than they did during Leopold's lifetime. Several studies have shown a significant trend for an earlier occurrence of spring phenological events, suggesting some species are changing behaviors in response to climate change.

*“Phenology, in short, is a ‘horizontal science’, which transects all ordinary biological professions. Whoever sees the land as a whole is likely to have an interest in it.”*

— Aldo Leopold

This calendar includes monthly narratives focusing on amphibians and reptiles. These descendents of ancient creatures have an inherent and pronounced phenological connection. That's because amphibians and reptiles are ectothermic, or cold-blooded, animals. In other words, they rely primarily on an external source of heat, usually the sun, to regulate body temperature and activity levels. Amphibians and reptiles must maintain high core-body temperatures in order to remain physiologically active for long periods of time, and are very reliant on climate and the changes therein.

Amphibian and reptile phenology is highly variable and difficult to research because these animals are so dependent on the proper conditions for immediate reproduction. Woods frogs, for example, first emerge from hibernation when night temperatures are more than 50 degrees Fahrenheit. Frog call occurrence is one of the few phenological data recorded by people and available for research on amphibians and reptiles. Still, amphibian and reptile reliance on climate makes them sentinels to environmental patterns and their changes over time.

It is hoped that the narratives in this calendar raise awareness of these species that are often overlooked or seen as unimportant, but are key indicators of environmental health. Leopold's own words illustrate the need for a closer look at all things on the land: “It is astonishing how few of those who have learned by rote rule or ‘nature study’ the statics of the land's present inhabitants or condition, ever learn to read the dynamics of its past history and probably future. To see why it is, how it became, and the direction and velocity of its changes — this is the great drama of the land, to which ‘educated’ people often turn an unseeing eye and a deaf ear.”



Aldo Leopold

It has exclusive rights to *A Sand County Almanac* and other writings and photographs, is owner and caretaker of Leopold's Shack and family farm, and serves as a clearinghouse for information regarding Aldo Leopold, his work and ideas. For more information contact ALF at PO Box 77, Baraboo, WI, 53913, 608-355-0279, or on the web at

[www.aldoleopold.org](http://www.aldoleopold.org)

### Hopkins Law

The dates in this calendar correspond to data collected primarily in southern Wisconsin. To apply these dates to a different area, apply Hopkins Law, which states that the phenological events vary at the rate of 1 day for each 15 minutes of latitude, 1.25 days for each degree of longitude, and 1 day for each 100 feet of altitude. This means there is an approximate 22-day difference between Wisconsin's southern border with Illinois and the northern border with Michigan. There is also an approximate 10-day difference between the east and west portions of the state, due to Lake Michigan's cooling effect.

### A note on dates

The phenology of reptiles and amphibians is highly dependent upon immediate conditions for reproduction. Wood frogs, for example, first emerge when night temperatures are over 50 degrees Fahrenheit. Therefore amphibian phenology is highly variable as well as difficult to research. Also, few people record any phenological data about reptiles and amphibians, other than frog call occurrence. This is mainly due to the tiny larval stages, secretive lifestyle, and the relative unpopularity of these animals in comparison to more visible species.

Cover photo: Short-eared owl, Jeffrey J. Strobel.  
Photos this page: Scarlet tanager, Jack R. Bartholmai; Canada geese take-off, Jeffrey J. Strobel; sunset, Jeffrey J. Strobel.  
Leopold photo courtesy of The Aldo Leopold Foundation.





photos: Coyote, Jim Jamieson; below: Great horned owl, Art Cole; Amnicon Falls, Ken Tapp

**Blanding’s Turtle**  
*Emydoidea blandingii*

The Blanding’s turtle is a medium sized turtle between 5 to 10 inches in length. This aquatic turtle has a carapace (top of shell) that is highly domed and black with yellow flecks, while the underside of the neck and chin is bright yellow. The plastron (bottom of shell) is yellow with black blotches on each scute (scales found on shell). Unlike any other aquatic turtle in Wisconsin, their plastrons are hinged, allowing the turtle to pull the bottom of its’ shell upward.

The Blanding’s turtle prefers shallow, slow moving backwaters or marshes with muddy bottoms and vegetation, rather than rivers or lakes. They can travel up to a mile and a half to find habitat, mates, or nesting sites.

This wetland-dwelling turtle is omnivorous, eating crayfish, berries, fish, frogs, snails, insects and worms. They are able to swallow food both in and out of the water.

Blanding’s do not become sexually mature until 15 to 20 years of age. Mating occurs as early as April, with nest-building season occurring through June and July. Typically, 15 elliptical eggs will be laid, with young emerging in late August and September.

This rather cold-tolerant species has been found throughout Wisconsin except for the north-central area. It is a state threatened species due to habitat loss and its late age of sexual maturation. In addition, it is slow moving on land, making it susceptible to automobile traffic while searching for suitable habitat, nesting sites and mates.

Blanding’s turtle  
photo: WIDNR-Sandhill Outdoor Skill Center



# January 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																											
	1 <div>Sunrise 7:29 AM Sunset 4:33 PM</div> <div>New Year’s Day</div>	2 <div>Erect and clean barred owl boxes</div>	3 <div>Female elk move to south-facing slopes for winter ○ Full (Wolf) Moon The Earth is closest to the Sun (Perihelion)</div>	4	5 <div>Black bear cubs being born in dens</div>	6																																																																																											
7	8	9	10	11 <div>Aldo Leopold’s Birthday (1887)</div>	12	13																																																																																											
14	15 <div>Martin Luther King Jr. Day</div>	16	17 <div>Black-capped chickadees begin spring courtship song</div>	18	19	20																																																																																											
21	22	23 <div>Red fox begin mating</div>	24 <div>Wolves begin mating</div>	25 <div>Beaver begin mating</div>	26 <div>Canada lynx begin mating</div>	27																																																																																											
28 <div>Fox and Gray squirrels begin mating</div>	29	30	31 <div>Great horned owls begin courtship activities</div>		<div>December</div> <table><tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr><tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td></td></tr><tr><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td></tr><tr><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td></tr><tr><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr><tr><td>31</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	S	M	T	W	T	F	S					1	2		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31							<div>February</div> <table><tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr><tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td></tr><tr><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr><tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td></tr><tr><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td></tr><tr><td>25</td><td>26</td><td>27</td><td>28</td><td></td><td></td><td></td></tr></table>	S	M	T	W	T	F	S					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28			
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photos: Sharp-shinned hawk, Karen Nitz; below: mouse tracks in snow, Jeffrey J.Strobel; Gray wolf,Scott Ralston

Eastern Gray Treefrog

*Hyla versicolor*

The Eastern gray treefrog is commonly found throughout Wisconsin. Unlike most Wisconsin amphibians, Eastern gray treefrog numbers are increasing, possibly due to their ability to survive on the fringe of human development. As their scientific name suggests, their color varies depending on the temperature and their surroundings. They can appear from bright green to gray, usually with dark mottling throughout. The Eastern gray treefrog and the Cope's gray treefrog, which are nearly identical, are easily distinguished from other treefrogs by their bright yellow inner thighs.

Large numbers of male gray treefrogs can be heard calling in May and June wherever water is found. Sporadic calls can also be heard from males throughout the summer, especially after rains or during humid spells. Warm spring weather causes males to gather in shallow wetlands where they begin calling to attract females and commence mating. During this time frogs can be most vulnerable to predation from birds, fish and other herpetiles, including turtles. In permanent wetlands, fish can prey on frog eggs, larvae and adults, which is why some amphibians prefer to breed in seasonal wetlands where fish are absent. After breeding season, the adults return to upland woodlands and continue to forage. They require forested uplands near clean water to maintain healthy populations.

Eastern gray treefrog  
photo: Joyce Gross



# February 2007

SundayMondayTuesdayWednesdayThursdayFridaySaturday

January							March							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	
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14	15	16	17	18	19	20	11	12	13	14	15	16	17	
21	22	23	24	25	26	27	18	19	20	21	22	23	24	
28	29	30	31				25	26	27	28	29	30	31	



1	Sunrise 7:13 AM Sunset 5:10 PM	2	3
Erect American kestrel boxes			
Full (Snow) Moon			

4	5	6	7	8	9	10
Horned larks begin migrating north	Erect and clean out Wood duck and Bluebird boxes		Coyotes begin mating		Northern cardinals begin spring songs	

11	12	13	14	15	16	17
			Valentine's Day			

18	19	20	21	22	23	24
Great horned owls begin nesting	Presidents' Day					Bobcats begin mating

25	26	27	28
Canada geese spring arrival	Mink begin mating		





photos: Sandhill cranes, Karen Nitz; below: Coyote, Jim Jamieson

Eastern Plains Garter Snake

Thamnophis radix

The Eastern plains garter snake is very similar in appearance to the common garter snake and the state threatened Butler's garter snake. It is 20 to 28 inches long and locally common in the southern and northwestern parts of the state. A yellow to yellow-orange dorsal stripe and yellowish lateral stripes decorate a background of olive to black. A double alternating row of black spots separates the stripes. An additional row of black spots is beneath the lateral stripes. The underside is yellow to green with black spots on the outer edges. Two yellow dots may be seen on the head.

Habitat is open, moist, grassy areas usually around marshes, peat bogs, or lake borders. They can be found near homes, farms, and even urban areas. They hibernate in winter using animal burrows, ant hills, rock outcroppings, and sometimes man-made structures.

The Eastern plains garter snake has a varied diet that includes earthworms, fish, amphibians, mice, bird eggs and dead animals.

They are active during the day from April through November. Breeding occurs in April and May, then again in fall. Live young are usually born from July thru September. Litters vary from 5 to 70.

Rather than being aggressive when grabbed by a person or predator, Eastern plains garter snakes, like most garter snakes, will eject feces and musk from its cloaca (a cloaca is an internal chamber into which the digestive, urinary and reproductive systems empty, opening to the outside through the anus). Predators include herons, bitterns, hawks, raccoons, skunks, foxes and domestic cats.

Eastern plains garter snake  
photo: Scott Albert



March 2007

SundayMondayTuesdayWednesdayThursdayFridaySaturday

February							April						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
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18	19	20	21	22	23	24	22	23	24	25	26	27	28
25	26	27	28				29	30					



1	Sunrise 6:34 AM Sunset 5:46 PM	2	3
Erect bat boxes; Begin pulling Spotted knapweed		Snowshoe hares begin mating	Maple sap flows when day temperatures are above 40 degrees Full (Worm) Moon

4	5	6	7	8	9	10
Woodfrogs begin calling/ breeding the first day and night over 50 degrees	Bald eagle migration begins		Sandhill crane arrival begins	Tom turkeys begin gobbling	Fox and Gray squirrel young born	American robin spring arrival

11	12	13	14	15	16	17
Eastern bluebird spring arrival Daylight Savings Time Begins	Red-winged blackbird spring arrival		Common grackle arrival; Eastern chipmunks emerge from hibernation	Red fox pups being born	Killdeer spring arrival	Eastern meadowlark arrival

18	19	20	21	22	23	24
Leopard frogs emerging from their winter burrows	American woodcock first peent	Pine marten young being born	Red-winged blackbird arrival (A. Leopold data 1936-47) International Earth Day Vernal Equinox First Day of Spring	Hooded merganser spring arrival Canada Goose arrival (A. Leopold data 1936-47)	Wood duck spring arrival; Wolf pups being born	Skunk cabbage begins blooming

25	26	27	28	29	30	31
Ring-necked pheasants begin crowing	Eastern phoebe spring arrival; salamanders and newts begin to emerge	Great blue heron and Fox sparrow spring arrival	Hermit thrush spring arrival; Chorus frogs and Spring peepers begin calling now through first week of April	Mallards begin to arrive; Lynx kits being born	Opossum begin mating; Common garter snakes coming out of hibernation	Canada geese begin laying eggs



photos: Eastern wild turkey, Ellen Barth; below: Badger, David Herr; Tree swallow, Scott Ralston

Eastern Spiny Softshell Turtle

Apalone spinifera

The Eastern spiny softshell turtle is one of two softshell turtles found in Wisconsin and is more common than its relative, the Midland smooth softshell turtle. Softshells are flattened, pancake-shaped turtles that have a reduced bony carapace (top of shell) and plastron (bottom of shell). The shells lack the scutes or pigmented plates common to other turtles and are covered with a thick, leathery skin. Spiny softshells can be distinguished by the presence of two yellow, black-bordered lines along the sides of the head and a row of spines on the leading edge of the carapace.



Adult softshells have huge oval shells and are generally olive, gray, or tan in color which makes for impeccable camouflage on the bottom of lakes, rivers, or wetlands. They bury themselves on the bottom and with their long necks they expose their“snorkeled” nose just above the water surface so they may breathe without leaving their hiding place. They also possess the ability to absorb oxygen from the water through vessels in the lining of their throat, allowing them to stay submerged for hours while waiting for prey.

Females lay from 10 to 30 eggs in sand near the water’s edge and once hatched, 60 to 70 days later, the young often succumb to a variety of predators such as raccoon, wading birds, skunks, fish and automobiles. Adult softshells will generally eat fish, mussels, invertebrates, carrion and occasionally plant material. Spiny softshell turtle populations are declining in Wisconsin because of habitat loss, lake development and urban growth.

Eastern spiny softshell turtle  
photo: Bob Hay



# April 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																																																																																		
1  Sunrise 5:40 AM Sunset 6:24 PM  Trees susceptible to Oak wilt from now until hard freeze; Belted kingfisher spring arrival	2  Big brown bat spring arrival  ○ Full (Pink) Moon	3  Tundra swan arrival	4  Sigurd Olson's Birthday (1899)	5	6  Ruffed grouse begin drumming; Peak spring duck migration  Good Friday	7  Bald eagles begin nesting  Eastern phoebe arrival (A. Leopold data 1936-47)																																																																																																		
8  Tree swallow arrival Easter Sunday	9  Painted turtles are emerging	10  Yellow-bellied sapsucker spring arrival; Pasque flower blooms	11	12  Coyote pups and Mink kits being born	13  Cowbird spring arrival	14  Check bluebird boxes throughout nesting season																																																																																																		
15  Black bears leave dens; Pickerel frogs begin calling	16  Upland sandpipers are sighted; Dutchman's breeches blooms	17  Eastern cottontail rabbits are born	18  Hen mallards begin nesting	19  Pasque flower blooms (A. Leopold data 1936-47)	20  White-tailed deer bucks growing antlers; Prairie smoke blooms	21  Hognosed snakes are emerging  John Muir's Birthday (1838)																																																																																																		
22  House wren spring arrival Marsh marigold blooms Earth Day	23  Little brown bat spring arrival	24  Barn swallows return; Whooping cranes begin laying eggs	25  American toads begin to sing	26  Upper Trout Lake opens (Vilas Co.)  John Audubon's Birthday (1785)	27  Purple martins begin to arrive  Arbor Day	28  Bobwhite quail are mating																																																																																																		
29  Serviceberry blooms	30  Goslings hatching					<table><tr><th colspan="7">March</th><th colspan="7">May</th></tr><tr><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td><td>S</td><td>M</td><td>T</td><td>W</td><td>T</td><td>F</td><td>S</td></tr><tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr><tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td></tr><tr><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td></tr><tr><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td></td><td></td></tr></table>	March							May							S	M	T	W	T	F	S	S	M	T	W	T	F	S					1	2	3			1	2	3	4	5	4	5	6	7	8	9	10	6	7	8	9	10	11	12	11	12	13	14	15	16	17	13	14	15	16	17	18	19	18	19	20	21	22	23	24	20	21	22	23	24	25	26	25	26	27	28	29	30	31	27	28	29	30	31		
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photos: Wood duck drakes, Craig Strand; below: American widgeon, David Herr

Northern Ringneck Snake

Diadophis punctatus edwarsi

The Northern ringneck is a small (10 to 14 inch), secretive snake occurring in central and northern hardwood forests of Wisconsin. Its dark blue-black upper body is contrasted by a solid yellow belly with no spots or bars. A yellow/orange neck ring with a black border is the distinctive feature that sets this snake apart from all others. It's a harmless snake that will not bite when handled, but will exude a pungent liquid from its vent as a defense mechanism.

The Northern ringneck snake subsists on a diet of earth-worms supplemented with other small insects and occasionally salamanders, frogs and other small snakes. A similar subspecies, the Prairie ringneck snake (Diadophophis punctatus arnyi) occurs in western Wisconsin in association with rock outcrops and cliffs adjacent to the Mississippi River. This snake has a yellow/orange belly and chin and ventral spots or bars on the underside, but is otherwise identical to its close relative. There is a range overlap in the Monroe/Juneau/Adams county area where the two are known to hybridize.

Ringneck snakes are oviparous (egg-layers), depositing up to 10 but usually 2 to 4 oval to sausage-shaped creamy white eggs 23 to 28 mm long. They lay the eggs under rocks or in old rodent burrows in late June through early July, with hatching occurring from August to September. There is some evidence of communal egg-laying in this species ( Fitch, 1975). Young hatchlings are 4 to 6 inches in length and may live up to 15 years in the wild.

Ringneck snakes are common snakes in Wisconsin, typically encountered in spring and fall. During summer, these secretive snakes seek moisture by burrowing into the soil or moving deep into crevices or animal burrows.

Northern ringneck snake  
photo: Scott Albert



May 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday		
<div>April</div> <div>SMTWTFSS</div> <div>1234567</div> <div>891011121314</div> <div>15161718192021</div> <div>22232425262728</div> <div>2930</div>		<div>June</div> <div>SMTWTFSS</div> <div>12</div> <div>3456789</div> <div>10111213141516</div> <div>17181920212223</div> <div>24252627282930</div>		1 <div>Sunrise 4:52 AM Sunset 6:58 PM</div> <div>Ring-necked pheasants nesting</div> <div>Marsh Marigold blooms (A. Leopold data 1936-47)</div>	2 <div>Whip-poor-will spring arrival; Large trillium blooms</div> <div>Full (Flower) Moon</div>	3 <div>Warbler spring migration begins; Catbird spring arrival; Blue-winged teal arrival</div>	4 <div>Birdsfoot violet blooms; Northern oriole arrival</div>	5 <div>Eastern gray tree frog and Cope's gray tree frog begin calling (1st week of May)</div>
6 <div>Wood thrush and Scarlet tanager spring arrival</div>	7 <div>Indigo bunting spring arrival</div>	8 <div>Wild gooseberry blooms; Ruby-throated hummingbird spring arrival</div>	9 <div>Eastern wood pewee spring arrival</div>	10 <div>Columbine blooms</div>	11 <div>Shooting stars bloom</div>	12 <div>Wild geranium blooms; Prothonotary warbler arrival</div> <div>International Migratory Bird Day</div>		
13 <div>Young eagles hatching; May apples bloom</div> <div>Mother's Day</div>	14 <div>Choke cherry blooms; Mallards hatching</div>	15 <div>Wild lupine blooms</div>	16 <div>Sandhill crane chicks hatching</div>	17 <div>Jack-in-the pulpit blooms; Look for Morel mushrooms</div>	18 <div>Put out grape jelly and orange halves for orioles</div>	19 <div>Common loons begin nesting</div>		
20 <div>Common nighthawk spring arrival</div>	21 <div>Lilacs blooming</div>	22 <div>Veeries begin singing</div>	23 <div>First fire flies can be seen; Whooping crane eggs hatching</div>	24 <div>Pink prairie phlox bloom; Wild asparagus emerging</div>	25 <div>American woodcock young hatching</div>	26 <div>Anemone blooms; Green frogs and Blanchard's cricket frogs begin calling at the end of May</div>		
27 <div>White-tailed deer fawns are born now into June</div> <div>Rachael Carson's Birthday (1907)</div>	28 <div>First flight of Karner blue butterfly adults emerge</div> <div>Memorial Day</div>	29 <div>Wild iris blooms; Beaver kits being born</div>	30 <div>Ruffed grouse chicks hatching</div>	31 <div>Monarch butterfly arrival</div> <div>Full (Blue) Moon</div>				



photos: Trumpeter swans, Jim Jamieson; below: Common loons, Jim Jamieson

Four-Toed Salamander

Hemidactylum scutatum

The Four-toed salamander, a species of special concern in Wisconsin, is appropriately named because it has four toes on its hind feet, while all other terrestrial Wisconsin salamanders have five. They range in size from 2 to 4 inches with females becoming slightly larger than males. Their dorsal coloration is reddish-brown, fading to a gray or almost black color along the sides, with the white belly covered with black speckles the size and shape of coarsely ground pepper. The tail has a very distinct basal constriction which is generally where the tail will break off when the salamander is grabbed by a predator – a twitching morsel that distracts the enemy. A new tail is soon regenerated. Like many other salamanders, their diet consists mainly of insects and other arthropods such as ticks, spiders, springtails, midges, ground beetles, rove beetles, fly larvae, parasitic wasps, ants and snails.

Four-toed salamanders are generally associated with forests in or adjacent to sphagnum bogs, or forests with sphagnum-dominated depressions in them. Adults live under stones and leaf litter in hardwood forests surrounding boggy areas. The need for this special habitat accounts for its spotty distribution. Females nest in dense mosses growing along the water’s edge of woodland ponds and springs, or in dense moss or fallen woody debris lying over the water. After laying eggs in moss overhanging the water, they guard them as the embryos develop. After hatching, the larvae fall into the water and develop like other aquatic salamander larvae until metamorphosis. The unique breeding requirement of this salamander may possibly be what is limiting its abundance.

Four-toed salamander  
photo: Scott Albert



June 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<div>May</div> <div>SMTWTFSS</div> <div>12345678910111213141516171819202122232425262728293031</div>	<div>July</div> <div>SMTWTFSS</div> <div>12345678910111213141516171819202122232425262728293031</div>				<div>1</div> <div>Sunrise 4:21 AM Sunset 7:30 PM</div> <div>Ring-necked pheasant broods appearing</div>	<div>2</div> <div>Black bears begin mating; Trumpeter swan eggs begin hatching</div>
<div>3</div> <div>Yellow hawkweed blooms; Mink frogs begin calling now through July</div>	<div>4</div> <div>Painted turtles begin laying eggs Gaylord Nelson's Birthday (1916)</div>	<div>5</div> <div>Wild quinine blooms</div>	<div>6</div> <div>Bullfrogs begin calling</div>	<div>7</div> <div>Yarrow blooms</div>	<div>8</div> <div>Indian paintbrush blooms</div>	<div>9</div> <div>Daisy fleabane blooms</div>
<div>10</div>	<div>11</div> <div>Harebell blooms</div>	<div>12</div>	<div>13</div>	<div>14</div>	<div>15</div> <div>Black-eyed susan blooms</div>	<div>16</div>
<div>17</div> <div>Father's Day</div>	<div>18</div> <div>Flowering spurge blooms</div>	<div>19</div>	<div>20</div> <div>Butterfly weed blooms</div>	<div>21</div> <div>Prairie smoke seed collection Summer Solstice First Day of Summer</div>	<div>22</div> <div>Goats rue and Common milkweed blooms; Wild lupine seed collection</div>	<div>23</div> <div>St. Johns wort and Compass plant bloom</div>
<div>24</div> <div>Blue-winged teal ducklings hatching</div>	<div>25</div> <div>Hoary vervain blooms</div>	<div>26</div>	<div>27</div> <div>Marsh milkweed blooms</div>	<div>28</div> <div>Wild columbine seed collection</div>	<div>29</div> <div>Lead plant blooms</div>	<div>30</div> <div>Rattlesnake master blooms Full (Strawberry) Moon</div>



photos: Mallard chick, Steve Kozlowski; below: Red fox, David Herr

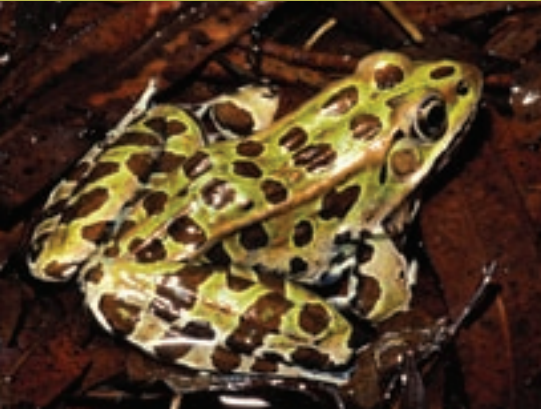
Northern Leopard Frog

Rana pipiens

The Northern leopard frog inhabits all of Wisconsin and is fairly common although declining. It is green to brown with rounded, dark spots on the back and sides while the ventral side is creamy white. It can be confused with the Pickerel frog that has square spots on the back and bright yellow or orange on the groin area and under the hind legs. It can vary from 2 to 4.4 inches long. Its call is a low, rumbling snore, similar to dragging your finger over a balloon; sometimes barks are interspersed. They breed from mid-March to May, primarily in seasonal wetlands that do not contain fish. (Breeding typically begins at water temperature of approximately 50 degrees Fahrenheit.) They often forage far from wetlands in old fields and prairies. Like most other frogs, larvae are herbivorous while adults are carnivores, feeding mainly on live prey such as insects, insect larvae and other invertebrates. Northern leopard frogs tend to be associated with a dense herbaceous layer in openings or totally open areas; at a landscape level they are a savanna species where scattered trees are present.

The Northern leopard frog was probably the most abundant frog species in the Great Lakes region before 1970, but since then, biologists have noticed a sharp population decline that continues today. This decline is likely due to wetland and associated habitat loss throughout the region, their sensitivity to chemical pollutants in the air and water, and their use in classrooms for dissection. In addition to a population decline, individuals only live approximately 2 years versus 3 to 4 years historically. It is also believed that this frog lays fewer eggs than in the past. However, they are very adaptable and will readily colonize restored wetland sites that hold water until mid-July.

Northern leopard frog  
photo: Joyce Gross



July 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1  Sunrise 4:22 AM Sunset 7:41 PM  Yellow coneflower blooms; June grass seed collection	2  Round-headed bushclover blooms	3  White prairie clover blooms	4  Queen of the prairie and Mountain mint blooms <b>Independence Day</b>	5  Purple coneflower blooms	6  Canada goldenrod and Culver's root blooms	7  Purple loosestrife and Cup plant blooms; Fall shorebird migration begins <b>The Earth is Farthest from the Sun (Aphelion)</b>
8  Painted turtles begin to hatch; cicadas can be heard	9  Wild bergamot blooms	10  Purple prairie clover and Whorled milkweed blooms	11  Prairie dock blooms; Common spiderwort seed collection	12  Evening primrose blooms; Turkey hens molting	13  Second flight of Karner blue butterfly begins	14  Turks cap lily blooms
15  Shooting star seed collection	16  Ironweed blooms	17  Monkey flower blooms	18  Sandhill crane chicks learn to fly	19	20	21  Purple martins begin to gather
22  Joe-pye weed blooms	23  Nodding wild onion blooms	24	25  Boneset blooms	26  Big bluestem in pollen	27	28  Spotted jewelweed blooms; Rough blazing star blooms
29  Deer antler growth nearing peak size <b>Full (Buck) Moon</b>	30	31				

June							August						
S	M	T	W	T	F	S	S	M	T	W	T	F	S
					1	2				1	2	3	4
3	4	5	6	7	8	9	5	6	7	8	9	10	11
10	11	12	13	14	15	16	12	13	14	15	16	17	18
17	18	19	20	21	22	23	19	20	21	22	23	24	25
24	25	26	27	28	29	30	26	27	28	29	30	31	



photos: Dragonhunter dragonfly, Jeffrey J. Strobel; below: Redhead ducks, Jeffrey J. Strobel; Monarch caterpillar, Ken Tapp

Eastern Tiger Salamander

Ambystoma tigrinum

This common salamander is one of the largest of Wisconsin’s seven salamander species. They can be found throughout the state, with the exception of the very northeast and southwest areas. As adults, they are 7 to 11 inches in size with yellow or olive mottled spots on a black or deep-brown background. Early in development, this salamander can be mistaken for a mudpuppy with the distinguishing characteristic of five toes on their hind feet instead of a mudpuppy’s four toes.

The Eastern tiger salamander is considered a mole salamander because it spends most of its time underground. It utilizes various habitats including grasslands, wetlands, savannas, woods and farm ponds, with tiger salamanders being less dependent on wooded sites than other salamanders. Typically, this salamander emerges from its winter burrow in late March when soil and air temperatures are somewhat warmer than that required for other Wisconsin amphibian emergence. It then migrates to the nearest pond where breeding takes place. It takes 4 to 5 years to reach sexual maturity during a life span of 12 to 15 years. Its diet consists of insects, worms and even small rodents.

Threats to tiger salamanders are similar to those facing all of our amphibians – loss of habitat, predatory fish in breeding ponds and pollution. They are especially vulnerable during their migration periods when they cross roads and highways at night.

Eastern tiger salamander  
photo: Scott Albert



August 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday			
<div>July</div> <div>S M T W T F S</div> <div>1 2 3 4 5 6 7</div> <div>8 9 10 11 12 13 14</div> <div>15 16 17 18 19 20 21</div> <div>22 23 24 25 26 27 28</div> <div>29 30 31</div>		<div>September</div> <div>S M T W T F S</div> <div>1</div> <div>2 3 4 5 6 7 8</div> <div>9 10 11 12 13 14 15</div> <div>16 17 18 19 20 21 22</div> <div>23/26 24 25 26 27 28 29</div>				1 <div>Sunrise 4:48 AM Sunset 7:19 PM</div> <div>Cardinal flower blooms</div>	2	3	4
5	6	7	8 <div>Canada tick trefoil and false boneset seed collection</div>	9 <div>Gerardia blooms; Golden alexander seed collection</div>	10 <div>Stiff goldenrod blooms</div>	11			
12	13 <div>Blackberries and Elderberries are ripening</div>	14	15 <div>Northern orioles begin second song</div>	16	17 <div>Wild rice ripens</div>	18 <div>Great blue lobelia blooms; Side-oats grama seed collection</div>			
19 <div>Turtlehead blooms</div>	20 <div>Thimbleweed and Prairie cinquefoil seed collection</div>	21	22	23 <div>Snowshoe hare mating ending</div>	24 <div>Sweet flag seed collection</div>	25 <div>Black-eyed susan seed collection</div>			
26	27 <div>Bottle gentian begins blooming</div>	28 <div>Snapping turtle eggs hatching <div>Full (Sturgeon) Moon</div></div>	29 <div>Goats rue seed collection; Monarchs begin flight to Mexico</div>	30 <div>New Jersey tea and Bottlebrush grass seed collection</div>	31 <div>Horsemint and Common evening primrose seed collection</div>				



photos: Raccoon, Jim Jamieson; below: Black bear, Don Virgovic; Spider web, Ken Tapp

Western Slender Glass Lizard

Ophisaurus attenuatus



When caught, this lizard will twist and jump trying to escape, and in the process will shed its tail, which can break into many pieces, hence the name slender glass lizard. They are often mistaken for snakes because of their pointed snout, narrow head, and long, cylindrical body with no limbs. It differs from a snake in that it has eyelids, external ear openings, and a rigid body. They average 18 to 24 inches long; two-thirds of which is tail. Body color is tan, brown, or bronze and a thin brown stripe runs down the center of the back. Two wider black stripes run along the side of the body and tail and four narrow stripes run below that. The underside is white to light yellow. They will forage above and below ground on crickets, grasshoppers and beetle larvae, but occasionally will eat bird eggs and young mice.

This lizard is found in oak savannas, sand prairies, old fields, and pine barrens in central Wisconsin. They emerge from hibernation in May and are active until September. Eggs are laid in mid-June to early July in abandoned mammal dens, hollow stumps, and spaces under rocks and logs. The lizard moves around by using their sides to push against debris and vegetation in a side-to-side motion to propel forward. They are unable to move across smooth surfaces. Habitat loss and fragmentation, road mortality, and pesticide use contribute to the decline of the species.

Western slender glass lizard  
photo: Scott Albert



# September 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<div>August</div> <div><div>S</div><div>M</div><div>T</div><div>W</div><div>T</div><div>F</div><div>S</div></div> <div>12345678910111213141516171819202122232425262728293031</div>	<div>October</div> <div><div>S</div><div>M</div><div>T</div><div>W</div><div>T</div><div>F</div><div>S</div></div> <div>12345678910111213141516171819202122232425262728293031</div>				1 <div>Sunrise 5:22 AM Sunset 6:33 PM</div>	
2 <div>Clean out Purple martin boxes and cover holes</div>	3 <div>New England aster blooms <b>Labor Day</b></div>	4 <div>Wool grass seed collection</div>	5 <div>Ruffed grouse broods begin to disperse</div>	6 <div>Fringed gentian blooms; Wild quinine seed collection</div>	7 <div>Ruby throated hummingbirds begin southern migration</div>	8 <div>Flowering spurge seed collection</div>
9	10	11 <div>White-tailed bucks begin to shed velvet</div>	12	13 <div>Prarie dock and Culver's root seed collection</div>	14 <div>Purple prairie clover seed collection</div>	15 <div>Stiff gentian blooms</div>
16 <div>Migrating Canada geese begin to arrive</div>	17	18 <div>Hawks and Blue-winged teal are migrating</div>	19 <div>Rattlesnake master and Pasture rose seed collection</div>	20 <div>Prairie blazing star seed collection</div>	21 <div>Trumpeter swan cygnets learning to fly</div>	22
23 <div>Whooping cranes begin migrating south <b>Autumnal Equinox</b> <b>First Day of Fall</b></div>	24 <div>Leaves are turning color</div>	25 <div>Canvasbacks begin southern migration</div>	26 <div>White wild indigo and Round-headed bushclover seed collection <div>○ Full (Harvest) Moon</div></div>	27 <div>Wild beragamot, Leadplant and Swamp milkweed seed collection</div>	28	29



photos: Canada geese,Jeffrey J. Strobel; Beaver, Scott Ralston; mushrooms, Ken Tapp

Spotted Salamander  
*Ambystoma maculatum*

The Spotted salamander is a rather large salamander 6 to 9 inches long with two rows of round yellow or orange spots running from the eye to the tip of the tail. The rows of spots may be irregular or straight but usually do not run together to form large blotches on the grey to almost black body. The body is thick with four heavysset legs and a rather broad head.

Distribution extends from central Ontario south through the United States to the Gulf of Mexico. Although the species is fairly widespread in the Great Lakes region, it is seldom seen. Most of its time is spent under logs or in burrows made by other animals. They have a small home range that rarely exceeds a few square meters. The adults are secretive, rarely basking and with limited movement except during the breeding season.

The Spotted salamander requires mature deciduous forests with ponds where it feeds on worms, mollusks, spiders and insects. Reproduction takes place in March or April and adults breed in the same pond throughout their lifetime. Females lay up to 200 eggs in compact masses covered in a jelly-like coating. Egg masses are attached to underwater vegetation. Its larvae feed on a wide range of aquatic invertebrates including mosquito and beetle larvae. Adults secrete a milky toxin from glands on the back and tail for defense against predation.

There is general concern that this species of salamander may decline due to decreased water levels,habitat destruction and reduced water quality.

Spotted salamander  
photo: Scott Albert



October 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 <div>Sunrise 5:55 AM Sunset 5:39 PM</div> <div>Tamarack trees are turning golden; Bottle gentian seed collection</div>	2 <div>Little brown bat departure; Dark-eyed junco fall arrival</div>	3 <div>First frost</div>	4	5 <div>Stiff goldenrod, Ironweed, Canada wild rye and Yellow coneflower seed collection</div>	6 <div>Compass plant seed collection</div>
7 <div>Big bluestem and Blue vervian seed collection</div>	8 <div>White-tailed buck making scrapes and rubs through November <b>Columbus Day</b></div>	9	10 <div>Rough blazing star seed collection</div>	11	12 <div>Eastern prickly pear cactus, Showy goldenrod and old Field goldenrod seed collection</div>	13 <div>Prairie dock seed collection; Finish foliar application of woody vegetaion</div>
14 <div>Frogs begin to burrow into mud; Wood ducks migrating south</div>	15 <div>Last Eastern phoebe sighting; Sky blue aster and Little bluestem seed collection</div>	16	17	18 <div>Red-winged blackbird gather for departure</div>	19 <div>Redhead ducks migrating south</div>	20
21 <div><b>Ding Darling's Birthday (1876)</b></div>	22	23	24	25 <div>White-tailed bucks begin rut ○ Full (Hunters) Moon</div>	26 <div>White-throated sparrow departure</div>	27 <div>Canvas peak fall migration <b>Teddy Roosevelt's Birthday (1858)</b></div>
28	29 <div>Black bears begin to den</div>	30	31 <div><b>Halloween</b></div>			

September							November						
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9	10	11	12	13	14	15	11	12	13	14	15	16	17
16	17	18	19	20	21	22	18	19	20	21	22	23	24
23/30	24	25	26	27	28	29	25	26	27	28	29	30	



photos: White-tailed deer buck, Stan Bousson; below: Woodchuck, Jeffrey J. Strobel; Black-capped chickadee, David Herr

**Western Worm Snake**  
*Carphophis vermis*

This glossy, wormlike, snake resembles a night crawler in size, measuring 7½ to 11 inches long with an un-patterned purplish-black back and a bright reddish-pink belly. The tail is sharply pointed with a spine-like scale at the end.

They are seldom seen traveling about in the open. The exceptions may be during periods of heavy rains when a specimen may be discovered crossing a road through woodland habitats. They may be found in spring on rocky wooded hillsides hiding beneath rocks, bark, logs and leaf litter. During the summer and fall, they disappear from these areas and move to underground burrows or deeper into moist woods.

The Western worm snake has a rigid, wiry feel and will try to burrow its way out of one's hands instead of biting. When molested, it will release thick, foul-smelling mucus from its anal glands and/or suddenly press its tail tip into its captor's hand, creating the sensation of a pin prick in order to instigate a quick release.

It is believed that Western worm snakes hibernate in small burrows or in rock crevices, and probably breed in spring. They lay 1 to 8 elongated, thin-shelled eggs in June to July, with hatching occurring about 7 weeks later. Hatchlings are 3 to 4 inches long, resembling the adults and becoming mature in 3 years. Their diet consists almost entirely of earthworms, but they will also consume other soft-bodied insects.

The Western and Eastern worm snakes were formerly considered a single species. Today the Western worm snake is considered a Wisconsin Species of Conservation Need with only isolated records found in southwestern Wisconsin.

Western worm snake  
photo: Scott Albert



# November 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
<div>October</div> <div><div><div>S</div><div>M</div><div>T</div><div>W</div><div>T</div><div>F</div><div>S</div></div><div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div><div>9</div><div>10</div><div>11</div><div>12</div><div>13</div><div>14</div><div>15</div><div>16</div><div>17</div><div>18</div><div>19</div><div>20</div><div>21</div><div>22</div><div>23</div><div>24</div><div>25</div><div>26</div><div>27</div><div>28</div><div>29</div><div>30</div><div>31</div></div></div>		<div>December</div> <div><div><div>S</div><div>M</div><div>T</div><div>W</div><div>T</div><div>F</div><div>S</div></div><div><div></div><div></div><div></div><div></div><div></div><div></div><div>1</div><div>2</div><div>3</div><div>4</div><div>5</div><div>6</div><div>7</div><div>8</div><div>9</div><div>10</div><div>11</div><div>12</div><div>13</div><div>14</div><div>15</div><div>16</div><div>17</div><div>18</div><div>19</div><div>20</div><div>21</div><div>22</div><div>23/30</div><div>24/31</div><div>25</div><div>26</div><div>27</div><div>28</div><div>29</div></div></div>		1 <div>Sunrise 6:32 AM Sunset 4:50 PM</div>		2	3
4 <div>Daylight Savings Time Ends</div>	5	6 <div>Election Day</div>	7 <div>Peak mallard and scaup fall migration</div>	8	9	10	
11 <div>Veteran's Day</div>	12	13 <div>Last of Sandhill cranes migrating south</div>	14	15	16	17	
18	19 <div>Ring-necked pheasants begin to winter in cattails</div>	20	21	22 <div>Thanksgiving</div>	23	24 <div>○ Full (Beaver) Moon</div>	
25	26	27	28	29	30		

December

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Sunrise 6:32 AM  
Sunset 4:50 PM

2

3



photos: Bald eagle, Jim Jamieson; below: River otter, Dave Menke; Sharp-shinned hawk, David Herr; American kestrel, David Herr

Wood Frog

Rana sylvatica

Wood frogs are found throughout Wisconsin. They inhabit areas farther north than any other North American amphibian or reptile. They are found from northern Georgia and in isolated colonies in Alabama, up through the northeastern United States, and all the way across Canada into Alaska.

The Wood frog is the only frog found north of the Arctic Circle. They have the special ability to freeze their bodies. In the winter, as much as 45% of the frog's body may freeze, and turn to ice. Ice crystals form beneath the skin and become interspersed among the body's skeletal muscles. During the freeze the frog's breathing, blood flow, and heart beat cease. Freezing is made possible by specialized proteins, glucose, and perhaps accumulation of urea, which prevent intracellular freezing and dehydration.

Wood frogs prefer moist woodlands and ponds. They tend to stay in the same location and generally occupy an area of about 1,000 square feet. Breeding takes place in early spring, before ice has completely melted. Egg masses are attached to submerged vegetation.

The size of the wood frog ranges from 1.5 to 3.0 inches in length. The females are much larger than males. Coloration varies from brown or tan, to rust colored. The underparts of the frogs are yellowish and sometimes greenish-white.

The wood frog's diet consists of insects and other small invertebrates, especially spiders, beetles, moth larvae, slugs and snails. The larval stage consumes algae.

Wood frog  
photo: Joyce Gross



December 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<div>November</div> <div>SMTWTFSS</div> <div>123456789101112131415161718192021222324252627282930</div>	<div>January</div> <div>SMTWTFSS</div> <div>12345678910111213141516171819202122232425262728293031</div>				1 <div>Sunrise 7:09 AM Sunset 4:24 PM</div>	<div>Freeze line reaches the WI/IL border</div>
2 <div>White-tailed jackrabbits feeding on haystacks</div>	3	4	5 <div>Look for beaver prints and tail tracks in the snow</div>	6	7	8 <div>Upper Trout Lake average freeze date (Vilas Co.' 62-'72)</div>
9	10	11	12	13	14	15 <div>Look for mink slides along creeks and waterways</div>
16	17	18 <div>Look for otter slides along creeks and waterways</div>	19	20 <div>Lake Medota average freeze date (Dane Co.)</div>	21	22 <div>Winter Solstice First Day of Winter</div>
23 <div>Look for snow fleas (springtails) on the snow near dead vegetaion Full (Cold) Moon</div>	24	25 <div>Christmas</div>	26	27 <div>Take part in the Christmas Bird Count</div>	28 <div>Endangered Species Act Passed (1973)</div>	29 <div>White-tailed deer bucks begin to shed antlers</div>
30	31					



## Landowner assistance available with the U.S. Fish and Wildlife Service (USFWS)

**The Partners for Fish and Wildlife Program** assists private landowners in restoring wetlands, grasslands, oak savannas, pine and oak barrens, streams and endangered species habitat. Financial and/or technical assistance is offered to private landowners through voluntary cooperative agreements. Under these cooperative agreements, landowners agree to maintain the restored lands for the life of the agreement (10-year minimum). Landowners also retain full control of their land.

**For more information on the Partners for Fish and Wildlife Program, visit** [www.fws.gov/midwest/Partners](http://www.fws.gov/midwest/Partners)

**The National Wildlife Refuge System**, managed by the U.S. Fish and Wildlife Service, is the only system of federal lands dedicated entirely to wildlife. The Refuge System consists of 545 refuges, covering 97 million acres. These protected lands provide habitat for more than 200 species of fish and nearly 500 other animal species. Among the hundreds of wild species that call wildlife refuges home are 250 threatened or endangered plants and animals. More than 39 million people visit the wildlife refuges each year.

**For more information about the U.S. Fish and Wildlife Service and the National Refuge System, visit** [www.fws.gov](http://www.fws.gov)

## Landowner assistance available with the USDA Natural Resources Conservation Service (NRCS)

### **Wetlands Reserve Program (WRP)**

WRP is a voluntary program to help private landowners restore wetlands previously altered for agricultural use. The program provides assistance for wetland habitat restoration on lands that have been owned for one year and can be restored to wetland conditions. Landowners may restore wetlands with permanent easements, 30-year easements or 10-year contracts. One-time easement payments are based on the lesser of: 1) an appraisal based on pre-easement land value minus the post-easement land value, 2) the geographic rate based on agricultural county caps or 3) the landowner offer. Permanent easements receive 100% of the payment and 100% of the restoration costs; 30-year easements receive 75% of the land payment and 75% of the restoration costs; 10-year contracts pay for 75% of the restoration only. Permanent or 30-year easements are recorded with the property deed. Public access to restored lands is not required.

### **Wildlife Habitat Incentives Program (WHIP)**

The purpose of WHIP is to develop or improve fish and wildlife habitat for declining species on private and public land through prairie, barren, savanna, and stream restoration. Typical practices include seeding native vegetation, in-stream fish structures, brush management, and prescribed burning with Karner Blue Butterfly habitat emphasized in 2007. Non-federal land is eligible, including agricultural and non-agricultural land, woodlots, pastures and streambanks. Applications are funded based on statewide ranking. Landowner contracts are 5-10 years in length with flat rate cost share assistance available.

**\*Note: WRP and WHIP are competitive programs with only the most environmentally beneficial projects being selected for funding.**

### **Environmental Quality Incentive Program (EQIP)**

EQIP provides technical and financial assistance to agricultural producers for conservation practices that protect soil and water quality. Many practices are eligible for cost-sharing. Agricultural producers on agricultural lands are eligible. Projects are selected based on their environmental value. Contracts last 1-10 years. EQIP financial assistance varies by practice.

### **Conservation Security Program (CSP)**

CSP is a voluntary conservation program that supports ongoing stewardship of private agricultural lands by providing payments for maintaining and enhancing natural resources, including wildlife. CSP identifies and rewards those farmers who are meeting the highest standards of conservation and environmental management on their farm operations. Eligible landowners in selected watersheds may receive annual payments based on their level of stewardship, through a 5 to 10 year contract.

### **Conservation Reserve Program and Conservation Reserve Enhancement Program (CRP and CREP)**

CRP and CREP assist landowners or operators who set aside cropland (or pasture that is adjacent to streams) with annual rental payments throughout the contract period. Continuous CRP is an ongoing non-competitive sign up which includes practices such as grass buffers, windbreaks, waterways, wetland restoration. Cost sharing for practice installation is provided as well as other incentives. Whole field practices include tree planting, grass cover, prairie and oak savanna establishment. Land eligibility varies by soil type and crop history. Contracts last for 10-15 years. CRP and CREP are Farm Service Agency programs with NRCS providing technical assistance.

### **Web Soil Survey** <http://websoilsurvey.nrcs.usda.gov/app/>

This Web site allows online viewing of soil survey maps and reports. This new application greatly enhances access to information on soils which can be helpful for wildlife and forestry planning.

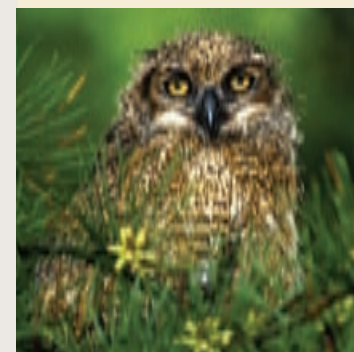
**For more information about these and other NRCS conservation programs, visit** [www.wi.nrcs.usda.gov](http://www.wi.nrcs.usda.gov)



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